



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,963	11/16/2001	Yutaka Miyahara	107156-00086	7869

7590 09/14/2004

ARENT FOX KINTNER PLOTKIN & KAHN, PLLC
Suite 600
1050 Connecticut Avenue, N.W.
Washington, DC 20036-5339

EXAMINER

PHAM, TUAN

ART UNIT PAPER NUMBER

2643

DATE MAILED: 09/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/987,963

Applicant(s)

MIYAHARA, YUTAKA

Examiner

TUAN A PHAM

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. (U.S. Patent No.: 6,289,036, hereinafter, "Saito") in view of Moriyama et al. (U.S. Patent No.: 6,571,097, hereinafter, "Moriyama").

Regarding claim 1, Saito teaches a receiver device comprising:

a plurality of antennas having different antenna gains (see figure 5, antenna 111, 112);

an antenna switching device for selecting one of reception signals received by the plurality of antennas (see figure 5, antenna switch 110, col.3, ln.35-40);

a detector for detecting the level of a reception signal from each antenna (see figure 5, detector 134-128, col.4, ln.5-25);

a controller for controlling the antenna switching device for selecting a reception signal having a lower level than a maximum input level of the signal processor (i.e., threshold level), in accordance with detection result from the detector (see figure 5, figure 6, controller 118, col.5, ln.1-25).

It should be noticed that Saito fails to clearly teach supplying the selected reception signal to a signal processor arranged subsequent to the antenna switching device. However, Moriyama teaches such features (see figure 10, DSP 98, col.2, ln.3-26) for a purpose of processing the input signals.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of supplying the selected reception signal to a signal processor arranged subsequent to the antenna switching device, as taught by Moriyama, into view of Saito in order to improve the transmission of the radio channel.

Regarding claim 2, Moriyama further teaches a receiver device wherein the controller has a judger (i.e., comparator) for judging a reception state of each antenna; and when there are a plurality of antennas capable of receiving signals without any troubles, the antenna switching device is controlled so as to select a reception signal from an antenna having a low antenna gain (see col.1, ln.25-52).

Regarding claim 3, Saito further teaches receiver device wherein the plurality of antennas are located close to one another, wherein the controller operates to control the antenna switching device, in a manner such that once the level of a reception signal supplied to the signal processor approaches a maximum input level of the signal processor, an antenna having a lower antenna gain than that of an antenna being selected is selected (see figure 6, col.5, ln.1-25).

Regarding claim 4, Saito further teaches a receiver device wherein the controller operates to control the antenna switching device, in a manner such that once

the level of a reception signal supplied to the signal processor becomes lower than a predetermined level, an antenna having a higher antenna gain than that of an antenna being selected is selected (see figure 6, col.5, ln.1-25). The system of Saito is selected the antenna having a gain lower or equal to the threshold level.

Regarding claim 5, Saito further teaches A receiver device wherein the controller operates to control the antenna switching device, in a manner such that once a reception signal of each antenna becomes lower than a predetermined level, a reception signal from an antenna having a high antenna gain is selected, and that when there are plurality of reception signals having a higher level than the predetermined level, a reception signal from an antenna having a low antenna gain is selected (see figure 6, col.5, ln.1-25). The system of Saito is selected the antenna having a gain lower or equal to the threshold level.

Art Unit: 2643

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In order to expedite the prosecution of this application, the applicants are also requested to consider the following references. Although Lindenmeier et al. (U.S. Patent No. 6,278,869), Bruckert et al. (U.S. Patent No. 6,018,651), Jager (U.S. Patent No. 6,330,433), and Imamura (U.S. Patent No. 6,188,879) are not applied into this Office Action; they are also called to Applicants attention. They may be used in future Office Action(s). These references are also concerned for supporting the system and method of testing overall and individual antennas of a switched space diversity receiver.
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tuan A. Pham** whose telephone number is (703) 305-4987. The examiner can normally be reached on Monday through Friday, 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz can be reached on (703) 305-4708 and

IF PAPER HAS BEEN MISSED FROM THIS OFFICIAL ACTION PACKAGE, PLEASE CALL Customer Service at (703) 306-0377 FOR THE SUBSTITUTIONS OR COPIES.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to: (703) 872-9306

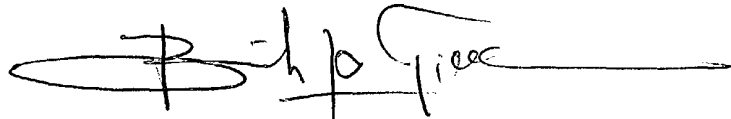
Art Unit: 2643

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist, tel. No. 703-305-4700).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have question on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit 2643
August 31, 2004
Examiner

Tuan Pham

A handwritten signature in black ink, appearing to read 'Binh Tieu', with a long horizontal line extending to the right.

**BINH TIEU
PRIMARY EXAMINER**